July 1, 1930. I. H. MOORE 1,768,919

LAWN SPRINKLING SYSTEM AND THE LIKE

Filed Sept. 3, 1927

FIG. 1.

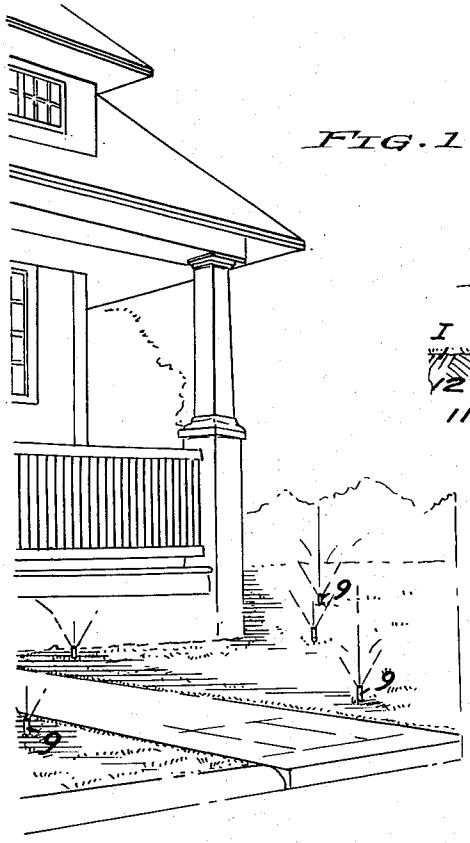


FIG. 3.

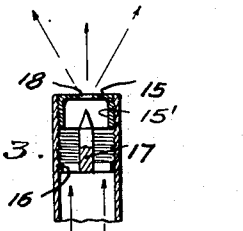


FIG. 2

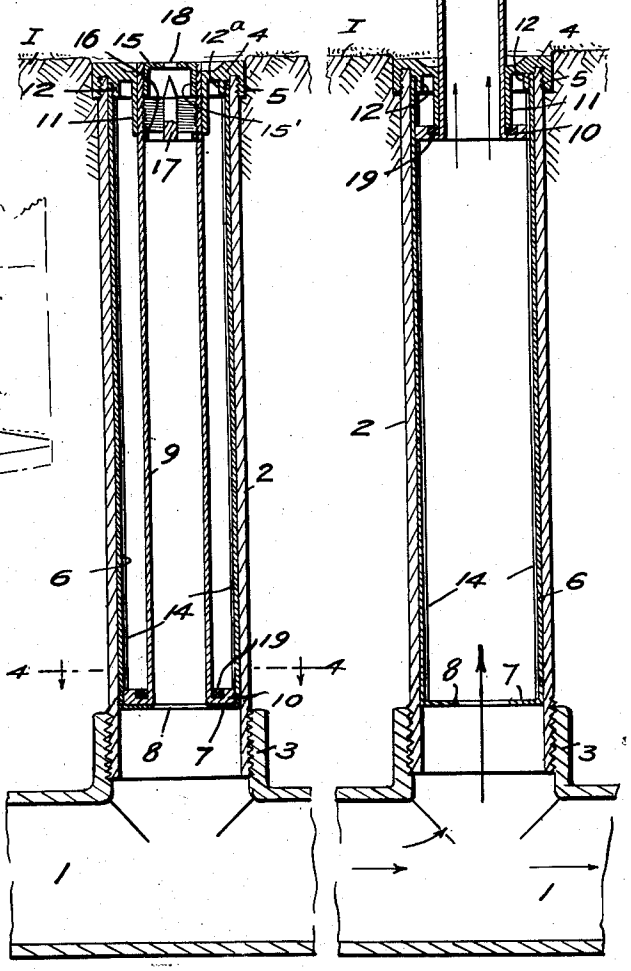
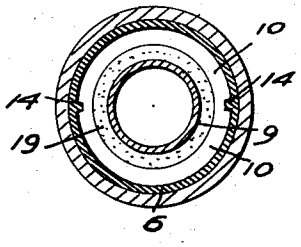


FIG. 4.



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UNITED STATES PATENT OFFICE

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LAWN-SPRINKLING SYSTEM AND THE LIKE

Application filed September 3, 1927. Serial No. 217,467.

My invention relates to improvements in lawn sprinkling systems and the like, and particularly in the provision of a novel nozzle therefor.

Briefly stated, the primary object of the invention is to provide a novel nozzle or equivalent which will be normally concealed from view when not in use,—as for instance below the level of the ground,—thus doing away with the necessity for disfiguring pipes extending above the ground, and which latter interfere with the cutting of the grass.

Another object of the invention resides in the provision in a lawn sprinkling system or the like, of a normally concealed nozzle which will be automatically actuated above the ground when the water supply is turned on, and which will again assume its concealed position when the water is turned off.

A still further object is to furnish a nozzle of this kind which will be inexpensive of manufacture, highly efficient in practical use, and capable of being readily assembled or taken apart.

The foregoing and other objects of the invention are attained by means of a novel combination and arrangement of parts to be hereinafter described and claimed, and in order that the same may be better understood, reference is had to the accompanying drawing which illustrates the now preferred form of the invention. It is to be understood, however, that the inventive conception is capable of many other mechanical expessions within the scope of the subject matter claimed hereinafter.

In the drawing,

Figure 1 is a perspective view illustrating the practical operation of the nozzle in connection with a lawn sprinkling system;

Figure 2 is a longitudinal sectional view of a water supply pipe and associated nozzle structure;

Figure 3 is a view similar to Figure 2 but showing the nozzle in its protruded or operative position; and

Figure 4 is a cross-sectional view taken on the line 4—4 of Figure 2.

Referring specifically to the drawing, wherein the same reference characters designate the same parts in all views, numeral 1 designates a water supply pipe having a branch nipple into which is threaded the upstanding branch pipe 2, the nipple being designated by reference character 3. The upper end of branch pipe 2 terminates just below the surface of the ground, as shown, and receives the cap 4 having a marginal internally threaded flange 5 which embraces the threaded upper end of pipe 2.

Within the branch pipe 2 is a cylindrical guide casing 6 whose inturned circumferential bottom flange 7 defines a restricted opening 8.

Within the casing 6 is a tubular nozzle 9 diametrically smaller than the casing and provided at its lower end with a lateral flange 10. The nozzle flange 10 normally rests upon the casing flange 7 to thereby support the nozzle with its upper end substantially flush with the cap 4, Figure 2 clearly illustrating that cap 4 is provided with a medial opening having a depending circular wall 11 which serves to guide the nozzle 9 in its sliding movement. It is also observed that the nozzle flange 10 engages the casing wall and cooperates with the depending cap wall 11 to guide the nozzle.

The cap 4 has upon its bottom face a circumferential flange 12 which is spaced inwardly slightly from the wall of pipe 2 to define an annular space therebetween to snugly receive the end of the casing 6, which is threaded upon flange 12, as indicated at 12^a.

The casing 6 has one or more longitudinal ribs 14 which engage notches in the nozzle flange 10 to prevent the nozzle from rotating. Of course ribs 14 can be eliminated if desired. The upper end of the nozzle is closed by a cap 15 whose lateral flange 15′ is threaded into the end of the nozzle as shown. The nozzle 9 also has threaded thereinto the carrier ring 16 of a needle valve 17 which is adapted to regulate the flow of water through the aperture 18 of the cap 15. It is obvious that the needle valve 17 can be adjusted by removing the cap 15.

The operation of my improved nozzle can be briefly summarized as follows:

When the water in the service pipe 1 is turned on it pases through the casing opening

8 and into the nozzle 9. Owing to the restricted opening 18 in the cap 15 the pressure of the water forces the nozzle 9 upwardly causing same to project above the ground as indicated in Figures 1 and 3,—the upward movement of the nozzle being limited by the engagement of the nozzle flange 10 with the depending circular wall 11 of the cap 4. In order to effect a seal between the nozzle 9 and cap wall 11 to prevent water from escaping around nozzle 9 and also to provide a cushion to prevent injury as a result of the impact between flange 10 and wall 11,—I provide the nozzle flange with a circumferential groove in which I locate a gasket 19. Figure 3 illustrates the sealing and cushioning action of gasket 19.

It is believed to be obvious that the force of the water will clear out any dirt that may accumulate above or around nozzle 9 and also that the needle valve 17 can be readily adjusted after removal of nozzle cap 15.

It is understood that other forms of spraying devices may be used within the scope of this invention and that I do not limit myself to elements 15, 17 etc.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the class described comprising a pipe adapted to receive fluid under pressure, a closure cap threaded upon the outer end of said pipe, and having a guide opening through which a nozzle is adapted to be projected, an exteriorly threaded circumferential flange extending from the inner face of said cap and into said pipe, a guide casing having one end threaded to receive said flange whereby said casing will be detachably secured to said cap, a nozzle slidably carried within said guide casing and having a restricted outlet end, means carried by the nozzle for limiting its projection through the guide opening of said cap, and an inturned flange at the lower end of said guide casing to support said nozzle in its innermost position within said guide casing; said flange being so positioned that said nozzle is entirely within the casing when resting on said flange.

2. A device of the class described comprising a pipe adapted to receive fluid under pressure, a closure cap threaded upon the outer end of said pipe, and having a guide opening through which a nozzle is adapted to be projected, an exteriorly threaded circumferential flange extending from the inner face of said cap and into said pipe, a guide casing having one end threaded to receive said flange whereby said casing will be detachably secured to said cap, a nozzle slidably carried within said guide casing and having a restricted outlet end, a lateral circumferential flange adjacent the inlet end of said nozzle and having a notch, a longitudinal guide rib projecting inwardly from said casing and engaging said notch to prevent rotation of said nozzle, said nozzle flange engaging said guide casing whereby to cooperate with the guide opening of said cap to guide said nozzle in its movements and also engaging said cap to limit outward nozzle movement, and means for supporting the nozzle at the inner limit of its movement; said supporting means being so positioned that said nozzle is entirely within said casing when resting on said supporting means.

In testimony whereof I affix my signature.

ISAAC H. MOORE.